Oktavia D., 2016, Analisis Nitrosodietilamin (NDEA) pada Bandeng Asap Melalui Ekstraksi Menggunakan *Effervescence-Liquid Phase Microextraction.* Skripsi Ini Dibawah Bimbingan Dr. Miratul Khasanah, M.Si dan Yanuardi Raharjo, S.Si., M.Sc. Departemen Kimia, Fakultas Sains dan Teknologi, Universitas Airlangga, Surabaya.

ABSTRAK

Pada penelitian ini telah dikembangkan teknik ekstraksi *effervescence*-LPME untuk analisis senyawa nitrosodietilamin (NDEA) dalam bandeng asap secara HPLC dengan UV-Vis sebagai detektor (HPLC-UV-Vis). Tablet *effervescence* dengan berat 1 g yang digunakan untuk proses ekstraksi terbuat dari asam sitrat dan natrium bikarbonat. Beberapa parameter analitik telah dioptimasi meliputi volume pelarut organik, perbandingan komposisi tablet dan pH larutan umpan. Kondisi optimum yang diperoleh yaitu pelarut organik n-heksana dengan volume 100 µL, perbandingan komposisi tablet *effervescence* yaitu 1:4 ($NaHCO_3$: Asam sitrat) dan pH larutan umpan 8. Dengan menggunakan kondisi optimum tersebut dihasilkan kurva kalibrasi untuk larutan standar NDEA konsentrasi 2, 4, 6, 8 dan 10 ppm dengan nilai koefisien korelasi (r) sebesar 0,996, nilai limit deteksi 0,96 ppm, akurasi antara 92,07%-108,3%, koefisien variasi antara 0,19%-1,06% dan faktor pemekatan sebesar 202 kali. Metode ini telah diterapkan dalam penentuan NDEA dalam bandeng asap. Hasil analisis NDEA dalam bandeng asap A dan B masing-masing adalah 1,24 ppm dan 2,48 ppm.

Kata kunci : Nitrosodietilamin (NDEA), *Effervescence*-LPME

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ABSTRACT

Effervescence liquid phase microextraction has been developed for the determination of nitrosodiethylamine (NDEA) in smoked milkfish. It was determined by High Performance Liquid Chromatography with UV-Vis detector (HPLC-UV-Vis). The use of an effervescent tablet for extraction composed of citric acid and sodium bicarbonate. The experimental variables, including volume of organic solvent, ratio of effervescent tablet composition and pH were optimized. The optimum condition for each parameters are volume of n-hexane was 100 µL, composition of effervescent tablet was 1:4 for $NaHCO_3$: Citric acid, and pH was 8. Under the optimized conditions, good linearity was obtained in the range of 2-10 ppm with correlation coefficients (r) is 0.996. The limit of detection is 0.96 ppm, with accuracy ranging from 92.07% to 108.3%, the coefficient variations were between 0.19% and 1.06% and enrichment factor until 202 times. From the results of the analysis revealed that the method has been applied in the determination of NDEA in smoked milkfish. The analysis results of NDEA in smoked milkfish A and B are 1.24 ppm and 2.48 ppm respectively.

Keywords: Nitrosodiethylamine (NDEA), Effervescence-LPME